

REMARKS

Claims 1-20, 24, 28, 68, and 77 were presented for examination and all claims were rejected. In the present amendment, claims 1, 11, and 77 have been amended. No new matter has been added. Support for the amendment may be found in the specification in at least paragraphs 27 and 45-46. Upon entry of this amendment, claims 1-20, 24, 28, 68, and 77 will be pending, of which claims 1, 11, and 77 are independent. Applicants submit that claims 1-20, 24, 28, 68, and 77 are patentable, as amended, and in condition for allowance.

The following comments address all stated grounds of rejection. Applicants respectfully traverse all rejections and urge the Examiner to pass the claims to allowance in view of the remarks set forth below.

CLAIM REJECTIONS UNDER 35 U.S.C. §112

In the Office Action, claims 1-20, 24, 28, 68, and 77 were rejected under 35 U.S.C. §112 as failing to comply with the written description requirement, failing to comply with the enablement requirement, and being indefinite. Specifically, the independent claims recited “redirecting said event notification to the server from the client, before an operating system on the client can handle the plug-and-play event.” Applicants traverse this rejection. Nonetheless, Applicants have amended the independent claims to clarify that the event notification is intercepted prior to being received by the client operating system. Accordingly, Applicants respectfully request the Examiner to withdraw the rejections of claims 1-20, 24, 28, 68, and 77 under 35 U.S.C. §112.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

I. Claims 1-20, 24, 28, 68, and 77 Rejected under 35 U.S.C. §103(a)

Claims 1, 3, 10-12, 15, and 77 were rejected as unpatentable over European Patent Application Publication No. EP 1187022 A2 to Arteaga *et al.* (“Arteaga”) in view of U.S. Patent Application Publication No. 2005/0091302 to Soin *et al.* (“Soin”) under 35 U.S.C. §103(a). Claims 2, 4, 13-14 and 16 were rejected as unpatentable over Arteaga in view of Soin, and in further view of U.S. Patent No. 7,171,478 to Lueckhoff *et al.* (“Lueckhoff”) under 35 U.S.C. §103(a). Claims 5, 7, 17, and 19 were rejected as unpatentable over Arteaga in view of Soin, and in further view of U.S. Patent No. 6,982,656 to Coppinger *et al.* (“Coppinger”) under 35 U.S.C. §103(a). Claims 6, 8, 18, and 20 were rejected as unpatentable over Arteaga in view of Soin and Coppinger, and in further view of U.S. Patent Application Publication No. 2002/0114004 to 4506209v1

Ferlitsch ("Ferlitsch") under 35 U.S.C. §103(a). Claim 9 was rejected as unpatentable over Arteaga in view of Soin and Ferlitsch under 35 U.S.C. §103(a). Claims 24 and 68 were rejected as unpatentable over Arteaga in view of Soin, and in further view of U.S. Patent Application Publication No. 2002/0159419 to Morris ("Morris") under 35 U.S.C. §103(a). Claim 28 was rejected as unpatentable over Arteaga in view of Soin, Morris, and Lueckhoff under 35 U.S.C. §103(a).

Claims 2-10, 24, 28, and 68 depend on and incorporate all of the patentable subject matter of independent claim 1, amended herein. Claims 12-20 depend on and incorporate all of the patentable subject matter of independent claim 11, amended herein. Claim 77 is an independent claim, amended herein. Applicants traverse these rejections and submit that Arteaga, Soin, Lueckhoff, Coppinger, Ferlitsch, and Morris, alone or in combination, fail to teach or suggest each and every feature of the claimed invention, as amended.

A. Independent Claims 1, 11, and 77 Patentable over Arteaga and Soin

To establish prima facie obviousness of a claimed invention, each and every claim limitation must be taught or suggested by the prior art. Independent claims 1 and 11 are directed towards methods and independent claim 77 is directed towards a system for handling plug-and-play events occurring at a client. Each of the independent claims has been amended to recite:

- interception of a plug-and-play event notification generated by a plug-and-play (PnP) manager at an abstraction layer prior to receipt of the notification by an application or an operating system on the client;
- creation of an association between (i) a virtual device in a user session on a server and (ii) a device in communication with the client; and
- creation of a second plug-and-play event notification in the user session, the notification including the created association

Arteaga and Soin, alone or in combination, fail to teach or suggest any of the above features of the claimed invention.

Arteaga describes an application running on a client that interprets and processes user and hardware events, such as mouse output and low-battery notifications (see Arteaga, para. 13).

- Arteaga does not describe interception of a plug-and-play event prior to receipt of the notification by an application on the client. Rather, Arteaga's client application receives and processes the events before sending notifications to a

server to reduce network use – “significant” user events, such as mouse clicks, are sent to the server, while “mere mouse movements” are not (*Id.*, para. 15).

- Arteaga does not describe creation of an association between a virtual device in a user session on a server and a device in communication with the client. Rather, Arteaga's control protocol merely sends data representing window commands – for example, a window handle for a button and a WN_CLICK message (*Id.*, para. 50). No virtual device is created or utilized, and accordingly, no association is created.
- Arteaga does not describe creation of a second plug-and-play event notification in the user session. As the Examiner admits, Arteaga is silent regarding even a first plug-and-play event notification (see Office Action, page 5).

Therefore, Arteaga fails to teach or describe any of these features of the claimed invention.

Similarly, Soin fails to teach or describe any of these features of the claimed invention. Soin describes Universal Plug and Play (UPnP), which is an IP-based home networking protocol, ISO/IEC 29341. Although UPnP's name is *derived* from plug-and-play, they are not related. Plug-and-play is a system for memory and resource assignment for hardware devices in a computer. UPnP is a network protocol that allows UPnP-enabled devices to announce their network address and supported device and service types. As recited in the claims, a plug-and-play event notification comprises a globally unique ID for the device, a vendor ID, a product ID, a device name, and an event type identifier. On the other hand, a UPnP notification is a UDP packet containing a host IP, cache-control information, a URL, a server type, etc.

- Soin does not describe interception of a plug-and-play event prior to receipt of the notification by an application on the client. As mentioned above, Soin describes UPnP, a networking standard rather than a hardware standard. Additionally, UPnP events are not intercepted by an abstraction layer prior to receipt by an application or operating system on the device. Instead, UPnP events are broadcast to other devices via UDP broadcast (see Soin, para. 113).
- Soin does not describe creation of an association between a virtual device in a user session on a server and a device in communication with the client. In fact, Soin is silent regarding virtual devices, user sessions, and servers.
- Soin does not describe creation of a second plug-and-play event notification in the user session. As mentioned above, Soin's UPnP events are not the same as plug-

and-play event notifications. Even if the UPnP networking standard were somehow interpreted to be a hardware device management standard, Soin is silent regarding creation of a second plug-and-play event including an association between a virtual device and a device in communication with a client.

Therefore, Soin also fails to teach or describe any of these features of the claimed invention.

Because Arteaga and Soin, alone or in combination, fail to teach or suggest each and every element of the claimed invention, Applicants submit that independent claims 1, 11, and 77 are patentable and in condition for allowance, as amended. Claims 3 and 10 depend on and incorporate all of the patentable subject matter of independent claim 1, as amended. Claims 12 and 15 depend on and incorporate all of the patentable subject matter of independent claim 11, as amended. Therefore, Applicants submit that claims 3, 10, 12, and 15 are also patentable and in condition for allowance. Accordingly, Applicants respectfully request the Examiner to withdraw the rejection of claims 1, 3, 10-12, 15, and 77 under 35 U.S.C. §103.

B. Dependent Claims Patentable over Arteaga, Soin, Lueckhoff, Coppinger, Ferlitsch, and Morris

As discussed above in connection with the rejection of independent claims 1, 11, and 77, Arteaga and Soin fail to teach or suggest intercepting an event notification generated by a PnP manager and redirecting the event notification to a server before further processing of the notification on the client.

The Examiner cites Lueckhoff merely for the purpose of addressing generating a context identifier and binding the context identifier to the event notification. The Examiner cites Coppinger merely for the purpose of generating an event notification as a result of a device arrival. The Examiner cites Ferlitsch merely for the purpose of sending an open command to a device. Finally, the Examiner cites Morris merely for the purpose of describing emulated plug-and-play events. However, Lueckhoff, Coppinger, Ferlitsch, and Morris all are silent regarding interception of event notifications at an abstraction layer, creating an association between a virtual device and a device in communication with a client, and generating a second PnP event notification in a user session on a server including the created association.

Because Lueckhoff, Coppinger, Ferlitsch, and Morris fail to teach or suggest these features of the claimed invention, Applicants submit that these references fail to detract from the patentability of independent claims 1, 11, and 77, amended herein, and dependent claims 2, 4-9,

13-14, 16-20, 24, 28 and 68. Therefore, Applicants respectfully request the Examiner to withdraw the rejection of claims 2, 4-9, 13-14, 16-20, 24, 28 and 68 under 35 U.S.C. §103.

CONCLUSION

In light of the aforementioned arguments, Applicants contend that each of the Examiner's rejections has been adequately addressed and all of the pending claims are in condition for allowance. Accordingly, Applicants respectfully request reconsideration, withdrawal of all grounds of rejection, and allowance of all of the pending claims.

Should the Examiner feel that a telephone conference with Applicants' attorney would expedite prosecution of this application, the Examiner is urged to contact the Applicants' attorney at the telephone number identified below.

Respectfully submitted,

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